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MASSAGE AND THE SWEDISH MOVEMENTS

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Preface to the Second Edition.

The universally kind reception accorded to this manual has induced the publishers to place a second edition on the market.

Since the first edition was published, the author has gained more experience, by instructing nearly two hundred nurses in the various Hospitals of Philadelphia, and many head-nurses sent to him from different Hospitals in the United States and Canada. In this edition we have given a more complete practical description of the Massage treatment, and in regard to the Swedish Movements we have added about 60 new illustrations, copied from the principal text-book (by Dr. Hartelius) of Swedish Movements used at the Royal Central Institute of Stockholm, Sweden.

It is the author's sincere wish that this manual, as it now presents itself, may be of great practical use to the *physician*, who in a condensed form desires to study the principal parts of mechano-therapeutics and their indications; for the *nurse*, who

needs a text-book; and last, but not least, for the *masseur*, who needs to improve his knowledge of the subject. THE AUTHOR.

1523 Chestnut St., Philadelphia.

Preface to the First Edition.

As the tendency of modern therapeutics is to cure disease by the application of the laws of Hygiene, the author feels that, in presenting this little work to the medical profession and to those especially interested in the subject, he will be supplying in English a treatise that has long been needed.

It is true, several books have been written on this subject by physicians, but none of them have been sufficiently explicit in telling how to perform the various manipulations, or the cases which may be benefited by the movements.

This work endeavors to explain how the movements are to be applied to all parts of the body, and also to show for what diseases such movements are indicated.

I am very much indebted to Drs. Charles K. Mills and H. Augustus Wilson for their kindness in giving me ample opportunity to practically demonstrate the Swedish methods of Massage and

Movements, at the Philadelphia Polyclinic and College for Graduates in Medicine.

I am also under obligations to several other professors of the same institution for valuable information received.

In describing the various movements and their influence upon the different parts of the body, I have consulted such well-known Swedish authors as *Wretlind*, *Hartelius*, *Kleen*, etc.

It is hoped that this little text-book will be a practical and valuable addition to what has already been published on the subject of mechano-therapy.

THE AUTHOR.

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MASSAGE

AND

THE SWEDISH MOVEMENTS.

INTRODUCTION.

Manual Treatment for disease has to a certain extent existed since the creation. Man had, by instinct, acquired the art of manipulation long before Nature yielded her secrets in medicine. This is still the practice among many nations. In Sweden even at the present time, certain manipulations are used among the peasants for cramps, swellings, etc. The Swedes seem never to have lost the art,—but recently revived in other countries.

Amiot and Dally speak of a perfect system of gymnastics among the Chinese three thousand years before the Christian era. They maintained that gymnastics, by preventing stagnation, pro-

duced an even and harmonious movement of the fluids in the human body, which is necessary to health. Not only did they use gymnastics to preserve health, but they also had a thorough knowledge of their therapeutical effects. From each of the natural positions they placed the body and limbs in certain derivative positions, which modified the movement of the fluids and were, of course, important in different diseases.

The priests of Egypt used some manipulation in the form of kneading and friction for rheumatic pains, neuralgias and swellings.

The Hindoos, also, had some knowledge of their therapeutical importance; but the masses were soon mystified by the priests, who, by incantations and magical words, led them to believe they were invented by the gods.

Even the Persians used a few movements for different affections.

The Greeks were the first to recognize gymnastics as an institution, a fact of much importance to the free states. Here they were auxiliary to the development of the people both socially and politically. The gymnasts were political, pedagogical, esthetical and therapeutic. The philosophers and the physicians *recommended* manual treatment. Plato even divided it into active and passive movements, and especially *recommended* the latter.

Some physicians practiced the movements themselves; but there arose a class of people, called *Pädotribes*, some of whom acquired great skill in the manipulation of the human body.

Although the *Romans* imitated the Greeks to some extent, they rather preferred calisthenics; yet the manual method was more extensively practiced in Rome under the Emperors than it had hitherto been by any other nation.

Thus we see that among the ancients the most common movements were a few passive manipulations, while in the Middle Ages the gymnastics of an earlier period were more or less forgotten.

In the fifteenth and sixteenth centuries well-known physicians recommended gymnastics. Fuller and Tissot wished to combine the movements with the study of medicine. In the early part of the present century, a therapeutic system of gymnastics acquired a reputation heretofore unknown, in movements based upon a certain action between operator and patient.

The Swede, P. H. Ling (1776–1839), and his predecessors erected the first scientific system, in which they adopted the new Medical Science, making the movement treatment a perfectly scientific remedy worthy of the confidence of every educated man.

In our own time, Dr. Mezger, of Amsterdam, has

demonstrated certain passive movements, and arranged them into a system that is now endorsed by every intelligent physician.

EXERCISE.

In walking or riding, or even in some of the ordinary occupations of life, it is true that a person takes a certain amount of exercise, but there is no *Method* in such movements.

It is easy to determine how much is to be done and how long it may be continued, but it will be a very difficult matter to *estimate* the amount of vital force necessary to carry these exercises into execution.

For instance, in walking, the strength of the motion depends not only upon the time and speed used, but also upon the weight of the body, supported by the lower extremities. In many cases the strength and tone of the muscles of the leg are not in proportion to the weight of the body.

This condition is exemplified in most of the calisthenic exercises.

When a person is practicing calisthenics, the strength of the exercise depends upon the constitution and upon the weight and the natural activity of the body, which are not necessarily in proportion to the individual's strength.

For instance, in jumping; to a person weighing

one hundred pounds, the exercise may be only light and agreeable, whereas to another weighing two hundred pounds, the weight of whose body is out of proportion to the muscular strength, the same exercise might prove positively injurious.

Not being able to *estimate* the vital force used in the common exercises, practiced under the head of calisthenics or in the different sports or games, they should not be classified under the name of **Medical** or **Remedial Gymnastics.** In the latter case it is necessary to be able to *estimate* the amount of force required in every movement, and apply it according to the strength of each individual.

The difference between the **Movement Treatment** and the common exercise does not consist only in the quantitative estimate of the movements.

In the exhilarating exercise of riding, the motion is *general*, acting upon the entire body, no part being excepted. On the other hand, in walking or dancing, the muscles of the legs are used almost exclusively; those of the arms not being brought into action at all. The dancing-master has well-developed muscles in his legs, whereas, unless he resorts to some special exercise for his arms, their muscles will not be in proportion to those of the legs.

Persons of *sedentary* habits, especially dressmakers and clerks, who have but little exercise of any kind, are sure to have an ill-developed muscu-

lar system. Unless such persons take exercise systematically, they are liable to injure themselves severely. Persons who try to excel in any one kind of athletics, run great risk of exceeding their strength.

Thus we see it is impossible to *estimate* the benefit of calisthenics, which can easily be done with the Swedish Movements.

Finally, in the **Movement Treatment**, all movements are arranged in such a way and in such a form as to be comfortable, and adapted to all parts of the body.

Based upon a knowledge of the *Anatomy* and *Physiology* of the parts and their proper physiological limits, this treatment is much superior to any other, as well as more agreeable.

All joints have a natural motion within certain fixed limits. When such joints are gently exercised an agreeable sensation is produced, but if the exercise be too violent, Flexing, Extending or Rotating to excess, severe pains will probably result. The same may be said of the muscular system. Each muscle having a distinct and certain function to perform, proper exercise of these muscles, if confined to physiological limits, will be invigorating and agreeable to the patient.

In giving the **Swedish Movements,** special attention is directed to the natural functions of

joints and muscles. This is not the case with any other kind of exercise, consequently the sensation and value of promiscuous movements can never be the same.

When movements are necessary over painful parts of the body, the patient must sometimes judge how much he can bear.

An operator who is not able to explain the physiological action of every manipulation or movement he uses, is liable to do more harm than good to his patients.

The Swedish Movement Treatment can better adapt itself to all conditions than any other treatment.

Finally, the aim of the Swedish Treatment is, by a careful manipulation of muscles and joints, to restore to good health such as are in any way diseased. The force of such manipulations can be estimated and the extent of their duration fixed.

MASSAGE.

The word **Massage** is a derivation from the Greek *massein*, or the French *masser*, which both mean: *to knead.* A male operator is called a *masseur*, a female operator a *masseuse.*

Massage *is a scientific treatment, by certain passive systematic manipulations, upon the nude skin of the human body.*

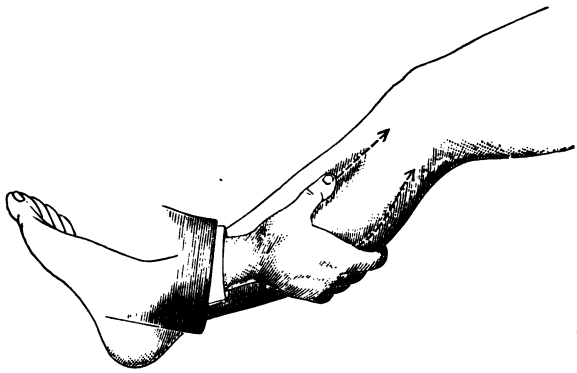
Dr. Mezger, of Amsterdam (now practicing in Wiesbaden, Germany), and his two pupils, the Swedish physicians Berghman and Helleday, were amongst the first to apply the Massage Treatment scientifically. Their method is now used throughout Europe. According to Mezger, Massage is a scientific treatment, *i. e.*, based upon the Anatomy and the Physiology of the human body; his manipulations are certain; that is, given or fixed, so that an uninstructed person cannot pick up the treatment—it is an art that cannot be self-acquired; all manipulations are passive, *i. e.*, applied to the patient without his assistance or resistance; the manipulations are also systematic, *i. e.*, they are

arranged so as to act systematically upon the different tissues of the human body.

Dr. Mezger divides the Massage treatment into four principal manipulations :—

1. EFFLEURAGE.
2. FRICTIONS.
3. PÉTRISSAGE.
4. TAPOTEMENT.

FIG. 1.



Stroking with one Hand.

EFFLEURAGE (STROKING).

This manipulation consists of centripetal (*towards the body or heart*) **Strokings.**

It is performed in four different ways :—

(*a*) Stroking with the palm of one hand.
(*b*) " " " palms of both hands.
(*c*) " " " thumb.
(*d*) " " " tips of the fingers.

FIG. 2.

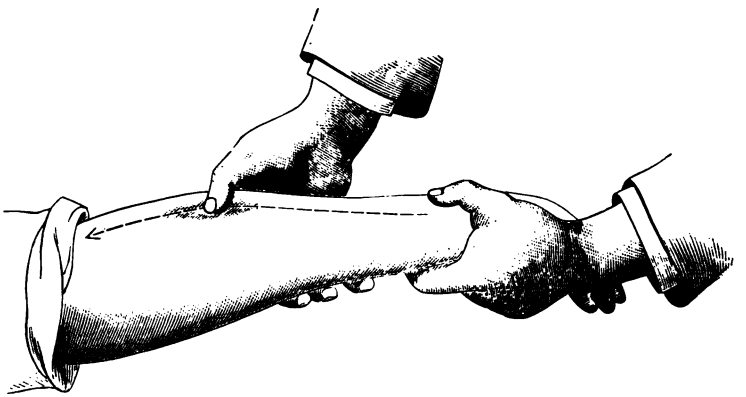
Stroking with both Hands.

STROKING WITH THE ONE HAND (see Fig. 1) is

used upon the extremities, the back of the head and in single massage of the neck (Gerst's method).

STROKING WITH BOTH HANDS is used upon the lower extremities of adults, upon the chest (see Fig. 2) and back, also in double massage of the neck.

FIG. 3.



Stroking with the Thumb.

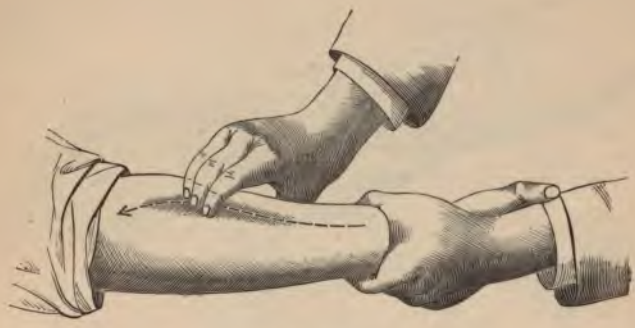
STROKING WITH THE THUMB (see Fig. 3) is used between two muscles, or between a muscle and a tendon; also frequently to reach the *Interossei* in the hands and the feet.

STROKING WITH THE TIPS OF THE FINGERS (see

Fig. 4), or the two last phalanges, is principally used around the joints (in cases of sprains, etc.), the fingers conforming themselves to the shape of the part to be worked upon.

The strength of the manipulation, Stroking, varies, from the slightest touch to the strongest

FIG. 4.



Stroking with the Tips of the Fingers.

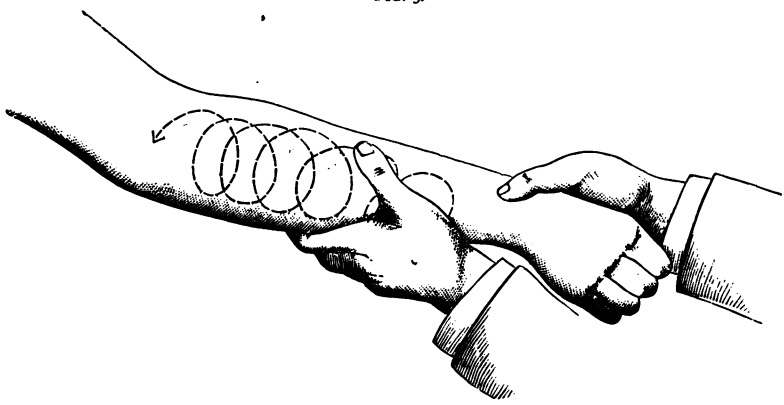
pressure, even with one hand on top of the other, if necessary.

The aim of all STROKINGS *is to increase the circulation in the venous blood-vessels and the lymphatics, thereby causing absorption.*

FRICTIONS (FRICTION),

Are firm circular manipulations, always followed by centripetal strokings. As a rule they are performed over one group of muscles at a time.

FIG. 5.



Friction with the Thumb.

Friction is given in three different ways :—

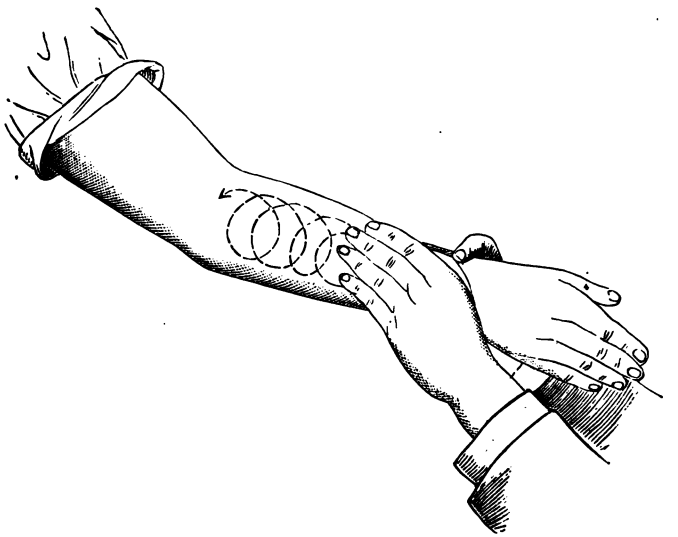
(*a*) Friction with the thumb.
(*b*) " " " tips of the fingers.
(*c*) " " " one hand.

FRICTION WITH THE THUMB (see Fig. 5.) is used upon the extremities, but also upon smaller sur-

faces, as, for instance, around the knee-joints and upon the facial muscles.

FRICTION WITH THE TIPS OF THE FINGERS is used around the joints, the thumb often supporting the

FIG. 6.



Friction with the tips of the Fingers.

hand. (See Fig. 6.) The circles are sometimes made a great deal smaller than demonstrated in Fig. 6.

FRICTION WITH THE ONE HAND is used upon the larger surfaces and fleshier parts, like the thigh, arm proper and lumbar region of back.

All FRICTIONS should be centripetal, and should *always* be followed by centripetal strokings, *as the aim of this manipulation is to transform pathologically*

FIG. 7.

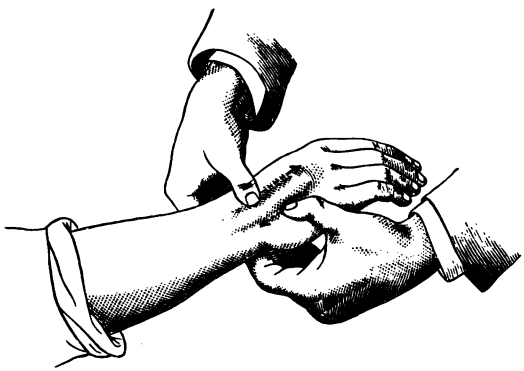
Kneading with the two Thumbs.

changed parts into a condition that will permit them to be incorporated into the healthy tissues, and thence be absorbed by the veins and lymphatics.

3. PÉTRISSAGE (KNEADING).

This manipulation is performed in such a manner as to cause a double centripetal pressure on a tissue (muscle or tendon) at the same time raising it up from its normal point of attachment.

FIG. 8.



Kneading on the Hand, for contracted tendons and muscles.

We have three different kinds of **Pétrissage.**

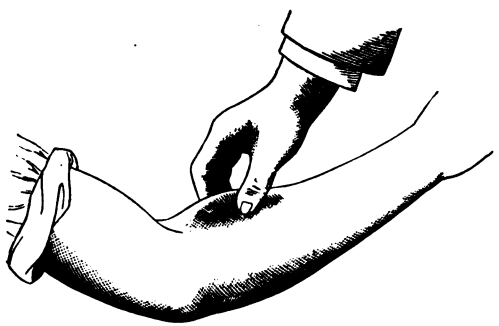
(*a*) Kneading with the two thumbs.
(*b*) " " " thumb and fingers.
(*c*) " " " two hands.

KNEADING WITH THE TWO THUMBS (see Figs. 7 and 8) is used to reach individual muscles.

KNEADING WITH THE THUMB AND FINGERS, which manipulation is called PINCHING (see Fig. 9), is also used to reach individual muscles, but is preferred on a deep-seated tissue.

KNEADING WITH BOTH HANDS, called SQUEEZING,

FIG. 9.



Kneading with the Thumb and Fingers, called Pinching.

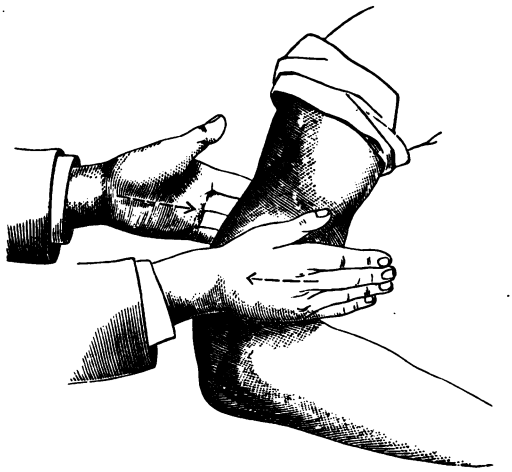
is used upon the lower extremities and upon the arm proper (see Fig. 10) of adults.

The aim of the manipulation KNEADING *is to reach the separate muscles with a firm double pressure and expose them to an action similar to that of* FRICTION.

4. TAPOTEMENT (PERCUSSION).

This manipulation is always performed by the operator's wrists, the hands striking quickly.

FIG. 10.

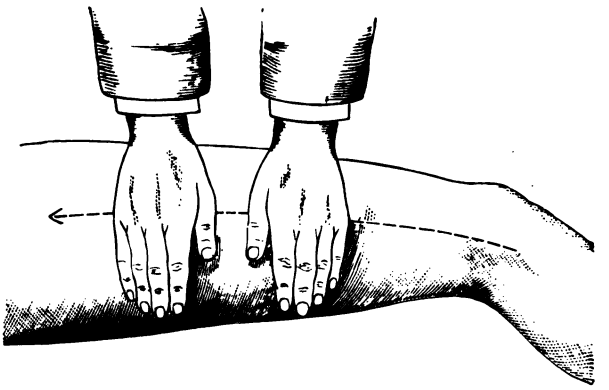


Kneading with both Hands, called Squeezing.

We have four different kinds of **Percussion.**

(*a*) CLAPPING (see Fig. 11), performed with the palms of the hands. It is used to act upon the skin and the superficial nerves and vessels.

FIG. 11.



Clapping of the Leg.

FIG. 12.

Position of hands in Hacking.

(*b*) HACKING (see Fig. 12) is performed with the ulnar border of the hand. It is used around nerve centres and upon the muscles.

FIG. 13.

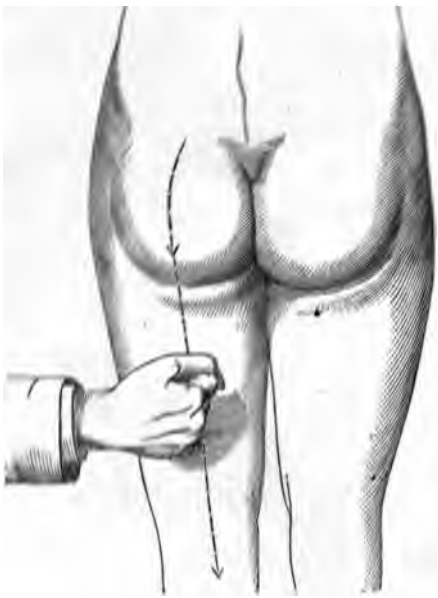
Positions of Hands in Punctation of the Forehead.

(*c*) PUNCTATION (see Fig. 13) is performed with the tips of the fingers. It is used upon the head and in circles around the heart.

(*d*) BEATING (see Fig. 14) is performed by the

clenched hand. It is used upon the glutei and upon the lower extremities over the *sciatic* nerve.

FIG. 14.



Beating over the Sciatic Nerve.

Massage as a therapeutic agent is divided into: *Intrasinchery*, *General* and *Local*.

INTRODUCTORY MASSAGE.

In many affections it is necessary to commence the operation of massage with what has been termed *introductory* treatment.

In the majority of cases of both acute and chronic affections of the joints, it is well to apply the treatment to the neighborhood of the part, and especially above it. This is essential if the skin is abraded or if a severe inflammation of the part exists.

The treatment consists of centripetal strokings (with one or both hands) in connection with a few kneadings. Special attention should be paid to the flexor muscles in the locality near which the most important veins and lymphatics pass. By this treatment we prepare the venous and lymphatic systems to absorb the diseased particles subsequently expelled from the affected part.

GENERAL MASSAGE.

By general massage we mean the treatment applied to the whole body, with the exception of the head.

The operator begins with the foot, stroking with one hand or kneading with the thumbs. Then he proceeds with the legs, the arms, the chest, the abdomen, and finally the back. All the manipula-

tions may be used, and special attention should be given to the hacking. Some authors advise to first take the extremities, then the back and finally the neck and abdomen. (Kleen and others). With this treatment we generally combine a few passive rotations or flexions, similar to those recommended for anæmia. The patient must be lying in bed, well covered on those parts not operated upon. It is of advantage for the operator to begin with the left foot and leg, and then have the patient turn over to the other side of the bed, where the balance of the treatment may be conveniently performed.

In regard to the time necessary to spend in giving general massage, I would advise the operator to begin with thirty minutes, and gradually increase the time so that one hour is consumed at the end of the first week. General massage should not be employed until two hours have elapsed after meals. As soon as a part is operated upon, it should be covered up at once.

LOCAL MASSAGE.

By *local* massage we mean the treatment applied to the different parts of the body at one time; for instance: massage of the shoulder.

I. MASSAGE OF THE LEG.—The patient is lying or half-lying on a bed or couch. The operator

at his side, performs the following manipulations:—

1. Stroking of the foot.

2. Stroking with both hands from the ankle to the hip, the hand on the outside reaching up to the crest of the Ilium, the thumb of the hand on the inside, with moderate pressure, going down towards the groin. (Avoid pressure upon the Tibia.)

3. Friction with the thumb upon the outside of the leg from ankle to knee joint, covering principally the flexors of the foot.

4. Stroking with one hand, of the same part.

5. Friction with the thumb upon the inside and posterior part of the leg, covering principally the *Gastrocnemius* and the *Soleus*.

6. Stroking with one hand, of the same part.

7. Friction with the thumb or hand upon the outside and inside of the thigh.

8. Repeated strokings over the whole extremity, from ankle to hip.

9. Kneading with the two thumbs or both hands upon the different muscles of the foot and leg.

10. Hacking or clapping upon the whole extremity, avoiding the bones.

In certain cases (Dropsy, Gonorrheal Rheumatism, etc.) it is well to have the limb elevated, thereby promoting the return of the venous blood.

II. MASSAGE OF THE ARM.—The patient is generally sitting, with the semi-flexed arm supported, if convenient. The operator stands at the side.

1. Stroking with one hand on the outside of the arm, from the wrist to the Trapezius. The other hand should support around the wrist, but care should be taken that no pressure be used over the radial artery, as that checks circulation considerably.

2. Stroking with the other hand upon the inside of the arm, from wrist to shoulder joint, the thumb going out towards the pectoral muscles. Support is given in a similar manner as described in No. 1.

3. Friction with the thumb upon the extensors of the hand and fingers with repeated strokings of the same part.

4. Friction with the thumb of the other hand upon the flexors of the hand and fingers with repeated strokings upon the same part.

5. Friction with the hand upon the arm proper.

6. Stroking of the whole arm as described in Nos. 1 and 2.

7. Kneading with the two thumbs or both hands upon different muscles, special attention being paid to reach the *Biceps*, *Triceps*, *Deltoid*, *Supraspinatus* and *Infraspinatus*.

8. Hacking over the whole arm.

III. MASSAGE OF THE CHEST.—The patient is lying flat on his back, without head-rest, and the arms placed at his sides.

1. Stroking with both hands, one on each side of the sternum. The manipulation should be performed upward and outward, making a somewhat circular motion. (See Fig. 2.)

2. Friction with thumb over pectoralis major and minor, with repeated strokings. Always from the origin (sternum) towards the insertion (the arm).

3. Kneading with the thumb and fingers (pinching) if the muscles of the one side be paralyzed.

4. Hacking or clapping over the chest may also be used, according to circumstances. Punctation in circles around the heart has also been recommended, but if used, great care should be taken.

IV. MASSAGE OF THE BACK.—The patient is lying on his face, without the head-rest; the arms should be kept at the sides.

1. Stroking with both hands, one on each side of the spinal column, from the base of the skull down to the sacrum. If on a large person the operator had better divide the back into three parts, in such a manner as to first work next to the spinal column,

then over the centre of the back, and finally over the sides, remembering that by the last manipulation he may conveniently reach the liver or spleen,

FIG. 15.

Stroking of the Glutei.

if desirable, in certain cases. In the case of an infant and especially in Infantile Paralysis we often use, in the stroking, only the index and the

middle fingers, one on each side of the spinal column.

2. Friction with the two last phalanges of the one hand, from the upper part of the Trapezius down to the Glutei, one side at a time.

3. Stroking as previously described.

4. Kneading with the two thumbs, one on each side of the spine, so as to act upon the spinal nerves. The hands should be spread over the back, supporting the sides if possible.

5. Hacking with one hand on each side of the spine, up and down, from the sacrum to the neck.

V. MASSAGE OF THE GLUTEI.—The patient is standing with the body bent forward and supported on a lounge or bedstead. The operator stands behind and performs—

1. Stroking with both hands from the spine outward, downward. (See Fig. 15.)

2. Friction with the hand; one side at a time.

3. Beating in circles, one side at a time.

If the patient is suffering severe pain from standing, the manipulations may be performed while he is in bed, with a couple of pillows placed underneath his abdomen and thighs.

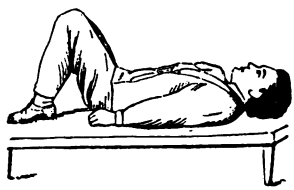
VI. MASSAGE OF THE ABDOMEN.—The patient is lying flat on his back, without head-rest, with the knees drawn up, so as to relax the abdominal

muscles (see Fig 16). The operator should sit at the patient's right side.

1. Friction with the tips of the fingers in circles *from right to left* over the umbilical region of the abdomen, thereby acting upon the *Smaller Intestine.* Begin with a very gentle pressure, gradually increas- the strength of the manipulation.

2. Spread the right hand over the abdomen so that the ball of the hand covers part of the *Ascending Colon,* press over that part upward to the

FIG. 16.



Position in Massage of the Abdomen and the Ventricle.

Transverse Colon, then stroke with the radial border of the hand firmly over to the left side. Here the tips of the fingers should be used for the downward pressure over the *Descending Colon.* The manipulation is repeated in circles without interruption.

3. Turn the patient on his face and perform firm beating of the sacrum in circles so as to act upon the *Rectum.*

Massage of the abdomen must never be used

soon after a meal is partaken of. It is well to evacuate the bladder before beginning the treatment.

VII. MASSAGE OF THE LIVER.—The patient is lying on his left side, without head-rest. The operator stands at the side.

1. Friction with the hand in large circles so as to cover the entire organ.

2. Clapping over the part and over the right side of the back.

Be very careful with the frictions in the first treatments.

VIII. MASSAGE OF THE SPLEEN—is performed in a similar way as massage of the Liver. The patient should, of course, lay on his right side.

IX. MASSAGE OF THE VENTRICLE.—Several methods have been proposed to reach the ventricle by massage. They are all more or less dangerous and we mention one of them only, for the completeness of the system.

The patient is lying flat on his back as described on Page 38, Fig. 16.

1. The operator sits at his side, and quietly placing his right hand with abducted thumb about two inches below the ribs of the left side, he performs strokings and frictions of the organ.

2. Kneading with the two thumbs may also be used, but the operator should always remember

that he has to deal with very sensitive parts, consequently his pressure should be moderated.

X. MASSAGE OF THE HEAD.—The patient is sitting, comfortably supported.

1. Stroking. Beginning with the back of the

FIG. 17.

Stroking of the Forehead.

head, keeping the left hand firmly on the forehead, and with the right in a V-shape, stroke downward. In stroking the forehead, place the thumbs between the eyebrows and stroke firmly over the temples to the ears, both thumbs working together, so as to act upon the supra-orbital nerve (see Fig. 17).

2. Friction with the one hand, the other supporting on the opposite part of the head.

3. Hacking is used with both hands striking together, making circles over the head, beginning on the top and moving backward, downward and forward to the starting point.

FIG. 18.

Massage of the Face.

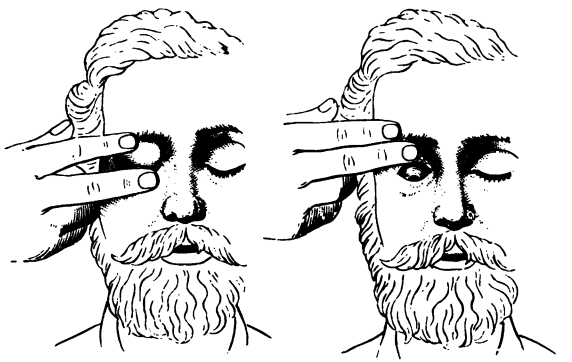
XI. MASSAGE OF THE FACE.—The patient is sitting, with the head supported.

1. Place the index finger in the mouth, and with the thumb stroke the muscles in the superior and inferior maxillary regions (see Fig. 18).

2. Use the thumb and index finger, picking up the muscles and working upon them with small rotary motions.

When no special conditions indicate another direction, always make the *Orbicularis Oris* the centre of the manipulation.

FIG. 19.



Massage of the Eye.

XII. MASSAGE OF THE EYE.—The patient sits, with the head leaning backward, the operator standing at his side. The index finger is placed on his eyebrow, the middle finger grasping the eyelid, which is pressed, with either a radial or circular motion, against the eye. Be very careful not to use too much strength, and perform the movement as quickly as possible (see Fig. 19).

XIII. MASSAGE OF THE THROAT.—The patient is sitting, in a somewhat reclining position. Stroke with two fingers on one side and the thumb on

FIG. 20.

Massage of the Neck, Gerst's Method.

the other side of the trachea. Finish with similar stroking in connection with a slight shaking.

XIV. MASSAGE OF THE NECK.—The patient faces the masseur (see Fig. 20) with the head thrown back,

so as to expose the neck. The operator places his hands at the lobes of the ears and performs a stroking downward to the shoulder. The patient should

FIG. 21.

Massage of the Neck, Hoeffinger's Method.

be told to breathe freely and easily. This method (originated by Dr. Gerst) is used principally to increase the circulation in the veins of the neck.

Another method of Massage of the Neck has been recommended by *Hoeffinger*. The patient is sitting, with the head erect. The operator stands behind and places his hands underneath the patient's ears. The stroking is performed downward towards the shoulder, the hand covering the principal part of the Trapezius (see Fig. 21).

XV. Massage of the Nose.—The patient reclining. The forefinger of each hand of the operator is applied, with mild pressure, to each side of the nose of the patient. A stroking downward is slowly and carefully performed.

XVI. Massage of the Uterus.—1. The *External Method* is merely a modification of the massage of the abdomen. The patient must be in a half-lying position, with the knees flexed, in order to relax the abdominal muscles. Begin with the circular manipulations, from right to left, following with *Stroking* and *Friction* over the lower part of the abdomen.

It is generally used for atony of the uterine organs, and must always be succeeded by *Percussion* or *Beating* of the lower part of the back. The Swedish Movements are a valuable auxiliary, controlling, as they do, the circulation in the abdomen and the lower extremities. The massage increases the current in the blood vessels and the lymphatics, the resorption is restored, and

the muscular organs in the smaller pelvis are strengthened.

Special manipulations of the intestines relieve the bowels, which in cases of uterine affections must be of great importance.

2. A *Second Method* is rather difficult to perform, as one or two fingers must be inserted in the vagina or the rectum, against which we work from the outside. It should be performed only by a person who has a thorough knowledge of the parts.

Dr. Norstrom, in Paris, recommends in massage of the Uterus :—

1. Graduate the pressure of the uterine body after you have seized it.

2. In order to get a good hold, push down during expiration; maintain the distance gained during inspiration and start again during the next expiration.

3. Be careful not to increase, by any sudden movements, the painful impression experienced by the patient when the uterus is first taken hold of; wait a moment before beginning pressure. The pressure sometimes produces reflex pains in various parts of the body.

4. Devote all your attention to supporting the uterus. This is easy when it is large and soft; very difficult when it is small and hard; it is then that it moves with great facility to one side or the other.

DETAILS OF TREATMENT.

The strength of the various manipulations is a principal point in the Massage Treatment, and the "self-made" masseur will often unnecessarily bruise his patients. As a rule, begin with a moderate pressure, ascertaining from the patient his sensation. *A new operator has often the fault of using too much pressure.*

To avoid abrasions all German and Scandinavian operators use some kind of oleaginous substance. Amongst preparations recommended we have used with advantage: White Vaseline, Glycerine, Lanoline, Lard, Olive Oil, Arnica Oil (in sprains or distortions), Belladonna Ointment (in neuritis), the two latter only when recommended by physicians. Any of these preparations may be used, but I would caution operators against using too much Glycerine, as it tends to irritate the skin. In America cocoanut-oil or cocoanut-butter has been freely used. A special Massage-Salve (antiseptic) has also been put up and can be obtained from Mr. Wm. Laubach, 1600 Chestnut Street, Philadelphia.

Some physicians and patients object to using grease of any kind. It is not my intention to advise operators to use large quantities of fat, but just enough to make the manipulations smoothly.

All grease must be well rubbed off the skin before

leaving the patient. The operator should wash his hands before and after every treatment; if necessary use some antiseptic.

Every part should be well covered up after masséeing it.

MASSAGE MUST ALWAYS BE APPLIED ON THE NUDE SKIN.

The masseur, who works outside the clothes, when acting upon special parts of the body, "works in the dark," tires his fingers and loses a principal feature in the application—the *feeling*, which is so extremely necessary in a careful masseur. Some authors claim that working outside the clothes will save the patient's skin; but could anything be more pleasant and agreeable than a soft hand?

CONTRAINDICATIONS FOR MASSAGE.

In several affections Massage is most certainly contraindicated, and in many the treatment must be performed very carefully.

The first important requisite is that the skin is not bruised or abraded. Consèquently Massage is not to be used in:—

1. *Skin affections;* wounds, burns, erysipelas, eczema, acne and specific eruptions.

2. *Certain affections in the blood-vessels or lymphatics.* This must be especially remembered in

elderly persons, whose vessels are, as a rule, very sensitive to mechanical pressure.

3. *In tumors and purulent inflammations*, in which we run the risk of transferring the virus to other healthy tissues.

4. *In all acute affections of the bone-tissue.*

5. *In severe constitutional or local diseases*, where complete rest is necessary. (When convalescent, Massage is, on the contrary, in many cases, one of the best tonics).

6. *Pregnancy.* As a rule avoid Massage during pregnancy, and especially Massage of the abdomen.

7. *Diseases of the Kidneys.*

8. *All affections*, in which the pressure is liable to cause a hemorrhage.

SWEDISH MOVEMENTS.

"*Every exercise, the direction and the duration of which are fixed is a movement.*"

That is the definition of a movement given to us by the Swede, P. H. Ling, who lived and worked in the early part of this century. He erected the first system of scientific movements, as before his time no approach had been made to a method of designating and classifying the positions and various movements of the body for the purposes contemplated in the MOVEMENT CURE.

In every science terminology is necessary, so even in this, Ling gave every movement a complicated or double name, the first part of which indicated the position which the patient must assume, the second part telling the nature of the movement itself; for instance, Sitting-Rotation of the Arms.

Thus it is left to us to first analyze the *positions* and afterward the *movements.*

POSITIONS.

Movements may be given or performed in many different positions of the body. It is necessary to have a *commencing*, *intermediate* and *terminating* position. Ling said that to render any movement definite and exact, a point of departure, a point of termination and the line through which the body or any of its parts must pass, are to be clearly determined, as well as the rhythm of the action itself.

There are in Ling's system five principal or fundamental positions, viz :—

STANDING, LYING,
SITTING, KNEELING,
SUSPENDING.

1. **Standing.**—In this position the legs, trunk and head are erect. The heels should be together, and the feet should form right-angles. The arms should be kept at sides (see Fig. 22).

Sitting.—In this position the buttocks and the posterior part of the thigh rest against the chair or sofa. The legs close together form right-angles with the thighs. The trunk and head should be erect (see Fig. 23).

Kneeling.—The body rests upon the knees and the anterior part of the legs. The feet should be

kept outside of the supporting part, as demonstrated in Fig. 24.

FIG. 22.

Standing Position.

FIG. 23.

Sitting Position.

FIG. 24.

Kneeling Position.

FIG. 25.

Lying Position.

Lying.—In this position the patient's body rests against the sofa or bed with the head, the back and the legs (see Fig. 25).

Suspending.—In this position the patient is to grasp a horizontal bar that is elevated so that the feet do not touch the floor. There should be the

FIG. 26.

Suspending Position.

same distance between the hands on the bar, as between the shoulders (see Fig. 26). The position is very tiresome, as it to a certain extent prevents respiration and circulation, on account of the ex-

tension of the thorax. It should be used with great care, and if the patient is weak, support his sides until he becomes accustomed to it.

From each one of these principal positions Ling formed many *derivatives* or subdivisions of positions.

We only mention the most important, and the illustrations will enable the reader to fully understand them.

DERIVATIVE POSITIONS FROM THE STANDING POSITION.

1. With the Lower Extremities.

FIG. 27.

Flex-Standing.

FIG. 28.

Little Knee-bend.

FIG. 29.

Walk-Standing.

FIG. 30.

Side-Standing.

FIG. 31.

Side-Flex-Standing.

FIG. 32.

Balance-Standing.

FIG. 33.

2. With the Upper Extremities.

FIG. 34.

Bent-Standing.

FIG. 35.

Before Bent-Standing.

FIG. 36.

FIG. 37.

Talk-Standing.

FIG. 38.

Arm Stretched-Standing.

FIG. 39.

Wing-Standing.

FIG. 40.

Think-Standing.

FIG. 41.

Resist-Standing.

FIG. 42.

Rest-Standing.

FIG. 43.

3. With the Trunk.

FIG. 44.

Curve-Standing.

FIG. 45.

Turn-Standing.

FIG. 46.

Stoop-Curve-Standing.

DERIVATIVE POSITIONS FROM THE SITTING POSITION.

1. With the Lower Extremities.

FIG. 47.

Long-Sitting.

FIG. 48.

Half-Long-Sitting.

FIG. 49.

Straddle-Sitting.

FIG. 50.

Short-Sitting.

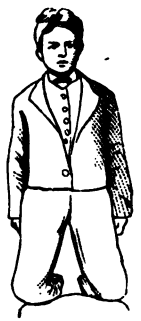
2. With the Trunk.

FIG. 51.

Fall-Sitting.

DERIVATIVE POSITION FROM THE KNEELING POSITION.

FIG. 52.

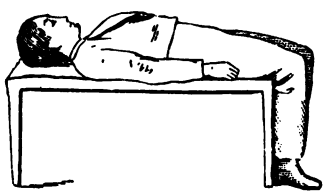


Side-Kneeling.

DERIVATIVE POSITIONS FROM THE LYING POSITION.

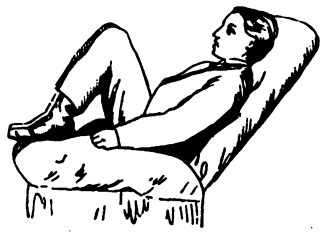
See Fig. 16 Page 38. (Crook-lying.)

FIG. 53.



Sit-lying.

FIG. 54.



Crook-half-lying.

The subdivisions of positions here mentioned have given rise to a difficult terminology, as in many of them no equivalent English word can be found. They are, however, of great importance to everybody who contemplates practicing Swedish Movements, and as to their practical use we will refer to them in connection with the Movements. Only a few examples of their importance will be given here. In the derivative positions of standing, with the arms, we can act upon certain parts or temporarily prevent certain organs or tissues from performing their functions. In the positions demonstrated in Figs. 34, 38, 40, 42, the chest is considerably expanded, which causes deeper inspirations.

In cases of "round shoulders," "narrow chest," etc., it is of great importance to select the proper one of these derivative positions for the movement that is to be used.

DIVISION OF MOVEMENTS.

Ling and his pupils divided the movements into:

1. SINGLE. 2. DOUBLE (OR COMPOUND).

The single movements they again subdivided into *Passive* and *Active*, and the double movements into *Concentric* and *Excentric*.

Passive movements *are such as are applied to the patient without his assistance.* (They may be performed by an operator, by a machine, or through the power of gravity.)

Active movements *are performed by the patient.*

Concentric (*active-passive*) *movements are performed by the patient, while the operator or some other power resists.*

Excentric (*passive-active*) *movements are performed by some power outside of the patient, while he resists.*

The principle difference between the *concentric* and *excentric* movements is that in the former the muscle is shortened, in the latter it is stretched. As to their nature and physiological action, it is easy to understand that they are but little different from the single active movements. *Practically they are of great use, as we by them are able to exactly fix the amount of mechanical work done by the patient in each movement.*

To make the terminology somewhat simpler for the reader, we have in the description of the movements used the expression *duplicated active* movements, by that covering both concentric and excentric movements in the Ling system.

THE VARIOUS MOVEMENTS.

1. ROTATION.
2. PRESSING AND SHAKING.
3. FLEXION AND EXTENSION.
4. SEPARATING AND CLOSING.
5. BENDING.
6. RAISING.
7. PULLING.
8. TURNING.
9. DEPRESSION AND ELEVATION.

1. ROTATION.

Rotation is a rotary movement by which the different joints are brought into motion within their natural limits.

I. **Rotation of the Feet** may be performed with the patient in a sitting or half-lying position.

In the first position, the operator sits in front of the patient, and, taking the feet in his lap, grasps the toes and moves the feet outward, describing a circle. In the second position, the patient is half-lying, his feet resting on the couch or bed. The

operator grasps the toes and proceeds with the same motion as above. Relax the muscles, if necessary, by shaking the toes.

The Rotation of the Feet is intended to promote circulation in the lower extremities, and is often used for attracting the blood from other parts. The movement is performed 15–30 times. The strength of the motion depends upon the size of the circle described. (Passive.)

II. **Rotation of the Foot.**—The operator, sitting in front of the patient, takes the heel in his left hand, and, grasping the toes with the right, performs a rotary motion from the ankle, pressing the foot forward. 10–15 times in each series.

It is used principally for deformities and affections of the feet. (Passive.)

III. **Rotation of the Leg.**—The patient in a half-lying position. The operator, placing one hand on the sole of the foot and the other below the knee, with the thumbs inward, raises the leg and performs a circular motion by the hip-joint, pressing upward, inward and outward. 12–15 times on each limb.

It is used to regulate the circulation of the abdominal organs and to prevent stiffness in the hip-joint. (Passive or Active.)

IV. **Rotation of the Arms.**—The patient sitting. The operator, standing behind, grasps the extended

arms below the elbows and rotates them upward and outward. The patient may also be in a standing position, in which case the operator must support him with his chest. It is used principally to assist respiration and circulation. (Passive or Active.)

V. **Rotation of the Shoulder.**—The patient sitting or standing. The operator, putting one hand on the shoulder-joint and the other below the elbow, rotates upward and outward. 15–20 times.

The movement is used for stiffness in the joint and for inflammation of certain muscles. (Passive.)

VI. **Rotation of the Hand.**—The operator takes the patient's hand, and, grasping the wrist with his free hand, rotates from side to side. 10–18 times.

It is used for stiffness in the wrist after fractures of the arm; also to increase the circulation. (Passive.)

VII. **Rotation of the Head.**—The patient sitting with the back supported. The operator, placing one hand on the forehead and the other on the neck, rotates SLOWLY from side to side. 8–10 times.

It is used for anæmia of the brain, stiffness of the neck, etc. (Passive.)

VIII. **Rotation of the Body.**—The patient in a sitting position, with hands on hips. The operator, standing behind, places his right hand on the right shoulder-blade, and his left in front, on the chest

of the left side, and performs the motion in such a way as to press the patient forward with one hand and carry him backward with the other, always being careful to describe a circle. When the movement is performed to one side 10–15 times, change the positions of the hands and rotate towards the other side.

It is used principally for affections of the abdomen. To secure a very strong action of the movement, the patient turns his body somewhat in the motion. (Passive.)

IX. **Rotation of the Pelvis.**—The patient resting with body on a couch or bed, and grasping it to keep immovable, the lower extremities extended. The operator grasps the feet and proceeds with the Rotation of the Legs, endeavoring to produce a circle large enough to bring the pelvis into action.

Rotate 10 times to each side, if the patient's strength permits. (Passive.)

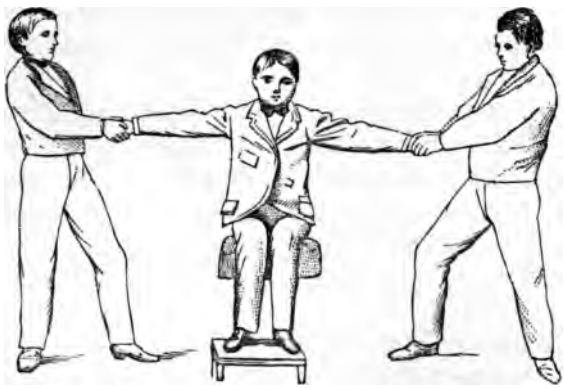
The aim of the Rotation is to lengthen and shorten the veins, so as to produce a sucking of their contents, thus stimulating the circulation and assisting the heart in its action.

2. PRESSING AND SHAKING.

These movements are mostly applied to the extremities and are generally combined.

In **Pressing**, the operator uses the tips of his fingers in vertical motion over the principal nerves.

FIG. 55.



Shaking the Arm.

In **Shaking the Arm**, the operator grasps the hand and shoulder, keeping the arm in an extended position, and shakes as quickly as possible. The movement may also be performed by two operators as demonstrated in Fig. 55.

In **Shaking the Leg**, the operator grasps the

foot with one hand and the thigh as high as possible with the other, and shakes quickly.

Fig. 56 demonstrates a certain kind of pressing with both hands put together upon the abdomen, the tips of the fingers going deep down in the pelvis, if required. It is used mostly in uterine affections, hysteria and prolapsus ani.

FIG. 56.

Pressing the Abdomen.

Pressing and Shaking are always passive. They are of great importance in the treatment of nervous affections.

3. FLEXION AND EXTENSION.

I. **Foot.**—The patient lying or sitting. The operator, grasping the ankle with one hand and the toes with the other, moves the foot up and

down as far as the limits of the joint permit. 10–18 times.

It is used for deformities, and especially for stiffness of the Achilles tendon. (Passive and Duplicated Active.)

The movement may also be performed on both feet at the same time, as demonstrated in Fig 57.

FIG. 57.

Flexion and Extension of the Feet.

II. **Leg.**—The patient is in a half-lying (see Figs. 59 and 60) or standing (see Fig. 58) position. The operator places one hand at the knee, the other either on top of the instep or underneath the sole of the foot.

The patient generally moves the limb up and down while the operator resists. (Duplicated Active.)

It may also be a passive movement, and is used

FIG. 58.

Flexion and Extension of the Leg.

for stiffness in the knee- and hip-joint, and for contraction of certain muscles.

III. **Arms.**—The patient sitting. The operator,

FIG. 59.

standing behind, grasps the patient's wrists, telling him to keep his elbows close to the body and to move the arms up and down, the operator making suitable resistance. 10 times. It is a circulatory movement. (Duplicated Active.)

IV. **Arm.**—The patient sitting. The operator, standing in front, grasping the wrist with one hand

FIG. 60.

and around the triceps muscle with the other, the patient moves the arm up and down, the operator making suitable resistance. 10–15 times. The motion may also be passive, and is used for acting upon the joints and for certain local affections. (Passive or Duplicated Active.)

V. **Hand.**—The patient sitting. The operator, in front, takes the fingers firmly in one hand, the

other grasping the wrist, and works up and down about 10 times.

It is used for stiffness of the wrist and for writers' cramp. (Passive or Duplicated Active.)

Flexion and Extension are used principally for regulating the circulation in certain parts and for relieving local congestion.

FIG. 61.

4. SEPARATING AND CLOSING.

I. **Arms.**—The patient sitting with arms extended. The operator, standing in front, grasps his wrists; the patient moves his arms out and in, the operator resisting. It is used for extending the chest. (Duplicated Active.) (See Fig. 61.)

II. **Legs.**—The patient sitting or half-lying. The operator grasps the ankles underneath, the patient separates and closes his legs, with the resistance of the operator, who may need an assistant. (Duplicated Active.)

This movement acts upon different abdominal organs.

III. **Knees.**—The patient in a half-lying position, with the knees flexed. The operator, standing at his side, places one hand on each knee and resists the patient, who separates and closes his legs. 8–16 times. (Duplicated Active.)

5. BENDING.

I. **Head.**—The patient, sitting or suspended, bends the head backward and forward. 8–10 times.

It is used to force the blood to the head in anæmia of the brain, and to extend the muscles of the back in lateral curvature of the spine. (Active or Duplicated Active.)

II. **Body** (sideways).—Suppose a case of lateral curvature of the spine. If the right side is affected, the patient stands with his left arm straight up, close to the head. The operator, standing behind, places one hand on the right side, at the highest point of the curvature, the other on the opposite hip; the patient bends slowly toward the left side, thus acting upon the affected muscles. The move-

ment may also be single active, as shown in Fig. 62.

Bending of the body sideways may also be performed in a sitting position (see Fig. 63).

III. **Body** (forward and backward).—The patient is standing with the hands on hips (see Fig. 64) or with the arms stretched (see Fig. 65).

FIG. 62.

FIG. 63.

He bends slowly forward and backward, being careful to keep the heels together. (Active.)

IV. **Trunk** (up and down).—See Figs. 66 and 67.

This movement should only be used on strong individuals, it being very effective. (Duplicated Active.)

FIG. 64.

FIG. 65.

FIG. 66.

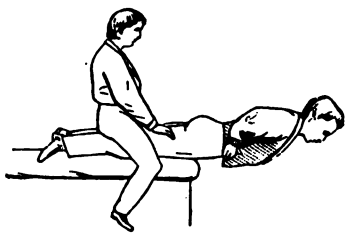
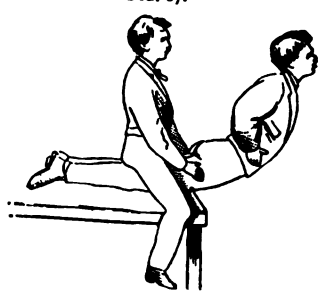


FIG. 67.



V. **Trunk** (backward).—The patient is sitting at the edge of a sofa or lounge. The operators stand behind and support as shown in Fig. 68. The patient bends his trunk backward while the operators resist; and the patient resists while the operators raise him up.

The support should be made firm, so that the

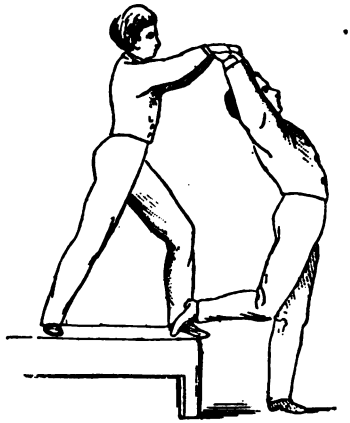
FIG. 68.

patient feels confident in performing the movement. It is an excellent exercise to act upon the muscles of the back. (Duplicated Active.)

VI. **Knee.**—The operator stands behind the patient, as demonstrated in Fig. 69, and resists the patient rising. (Duplicated Active.)

VII. **Knees.**—The patient stands with the hands

FIG. 69.



on the back of his head or supported as in Fig. 70. The patient is told to rise on his tip-toes; flex his

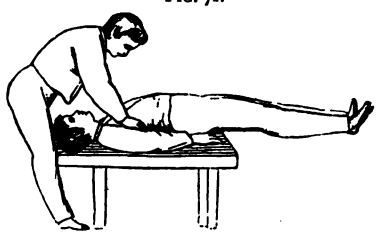
FIG. 70.

knees as much as possible; rise up on the tip-toes; and to regain standing position. The operator supports either as shown in Fig. 70 or with one hand on the chest and the other on the back.

6. RAISING.

I. **Leg.**—The patient lying flat on his back. The operator grasps the heel underneath, one hand supporting the knee underneath, and raises the extended leg upward. 10 times.

FIG. 71.



This movement may also be active, and is used principally for sciatica and slight rupture.

II. **Legs.**—The patient is lying flat on his back with the limbs extended as shown in Fig. 71. The operator grasps over the shoulders and presses the trunk down, while the patient raises the limbs upward far enough to have them form a right angle with the trunk at the hip. The move-

ment acts firmly upon the abdomen. (Duplicated Active.)

III. **Body.**—The patient sitting on a stool or a turned chair. The operator places his hands flat on the shoulder-blades. The patient, if strong enough, clasps his hands on the back of his head and bends forward, keeping the head up. He then raises his body up, with a strong resistance of the operator.

It is used for deformities of the back. (Duplicated Active.)

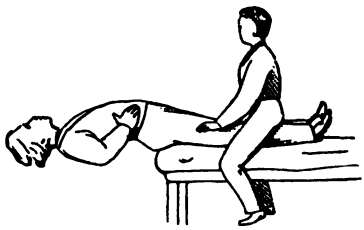
IV. **Body.**—The patient lying with hands clasped on the back of his head. The operator places his hands around the ankles, with thumbs inverted, and holds them firmly. The patient then rises slowly to a sitting position. There is no better movement for compressing the contents of the bowels. The movement may also be a general active, and is used principally for constipation. (Duplicated Active or Active.)

V. **Body.**—The movement may also be performed with the trunk extended from the lounge as shown in Fig. 72. It is then very effective and should be used with great consideration.

VI. **Body.**—Another form of raising the body in standing position is demonstrated in Fig. 73. The operator is sitting in front of the patient and resists him firmly in his rising. (Duplicated Active.)

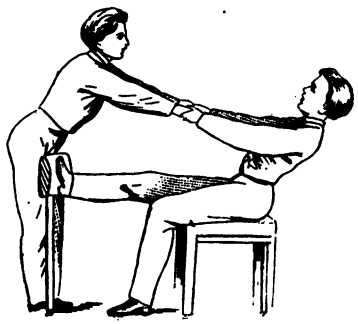
VII. **Chest.**—The patient sitting. The operator, standing behind and placing his hands around the

FIG. 72.



patient's armpits in front, raises the body slowly forward, upward and backward, describing a circle.

FIG. 73.



The movement is always *passive*, and is used to assist respiration. (See Fig. 74.)

When performing this movement the operator should be careful not to press the patient too much forward in the beginning.

FIG. 74.

7. PULLING.

I. **Leg.**—The patient standing on a chair, with hands against the wall for support (see Fig. 75). The operator, grasping the foot around the instep, carries the leg backward. 8–15 times.

The movement is abducent, as it causes a great tension in the front part of the abdomen. (Passive.)

II. **Leg.**—Another form of pulling of the leg in sitting position is demonstrated in Fig. 76. The

FIG. 75.

FIG. 76.

patient draws the limb upward with the operator's resistance; the operator pulls the limb down to the original position.

III. **Body** (backward).—The patient kneeling on a sofa, with knees separated; hands on hips. The operator stands behind, with one knee supporting the lumbar region, his hands grasping the armpits

FIG. 77.

from behind, and carries the patient slowly backward (see Fig. 77); the latter making slight resistance. 6–12 times, according to strength. (Duplicated Active.)

The motion has a strong effect on the muscles of the abdomen, and is used principally for cases of dysmenorrhœa.

IV. **Body.**—The position of operator and patient is shown in Fig. 78. The operator pulls the body backward, being careful to see that the bent position of the body is kept all through the movement.

FIG. 78.

8. TURNING.

I. **Foot.**—The patient sitting or lying. The operator puts one hand back of the ankle, the other grasping the toes and the front of the foot, and turns the foot from side to side. The motion is always *passive*, and is used chiefly for sprains and deformities.

II. **Leg.**—The patient lying. The operator places one hand on the sole of the foot, the other pressing on the knee to keep the leg extended, thumbs inward, and moves the limb slowly inward and outward.

The motion is used for stiffness in the hip-joints and for contraction of certain muscles. (Passive.)

FIG. 79.

FIG. 80.

III. **Body.**—The patient standing (see Fig. 79) or sitting (see Fig. 80), with hands on the hips or clasped on the back of the head. The operator, standing behind, places his right hand on one shoulder and his left in front of the other, and moves the patient to one side and back again, changing

the position of the hands before turning to the other side. The movement is also duplicated active, and is used for congestion of the abdominal organs and for acting upon the great venous system.

In Figs. 81, 82, 83, 84 we have depicted certain modifications of turning of the body. The one

FIG. 81.

FIG. 82.

shown in Fig. 84 should be used with great care, it being very effective, especially in the case of a woman.

IV. **Arm.**—The patient sitting or standing. The operator, supporting the elbow with one hand and grasping the hand with the other, moves the fore-arm from side to side (pronation and supination).

If the whole arm is to be turned, the operator must grasp the elbow to keep it extended. The movement is passive, and is used principally for stiffness in the joints and for relaxing the tendons and muscles in cases of after-operation.

FIG. 83.

FIG. 84.

V. **Head.**—The patient sitting. The operator, placing one hand on the forehead, the other on the neck, moves the head slowly from side to side. 10 times. (Duplicated Active, or Passive.)

VI. **Pelvis.**—The patient is in a position as shown in Fig. 85. The operator stands behind and

resists the patient in his turning forward and backward.

FIG. 85.

9. DEPRESSION AND ELEVATION.

I. **Arms.**—The patient sitting or lying. The patient raises his arms, the operator grasping the hands from behind. The operator presses the arms down, the patient resisting. The patient raises the arms, while the operator resists. 10–12 times. (Duplicated Active.)

In Fig 86 is shown a form of depression and

elevation of the arms in which the operator stands elevated in front of the patient.

II. **Legs.**—The patient lying flat on the back, grasping the bed or couch to keep himself immovable. The operator grasps the soles of the feet, thumbs inward. The movement is performed

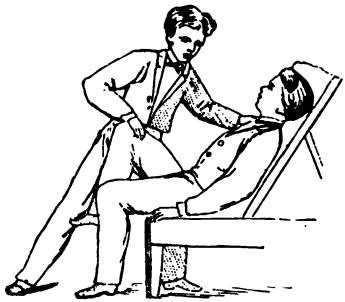
FIG. 86.

down and up with the knees turned out, the patient resisting in the elevation and the operator in the depression.

The movement is very effective and must be performed with great care. 6–10 times. (Duplicated Active.)

III. **Leg.**—In Fig. 87 we have demonstrated depression of the one leg, used for certain muscular affections in the thigh and around the pelvis.

FIG. 87.



A few movements belonging to the Swedish system have been omitted, as not being of much practical use.

THE PHYSIOLOGY OF THE MOVEMENT TREATMENT.

The **Movement Treatment** is not shrouded in mystery, nor is a minute knowledge of Anatomy or Physiology necessary to understand its nature and comprehend its workings. Its physiology is very simple and easily understood, because it always endeavors to follow the laws of nature.

Motion and activity are the principal characteristics of man; and all parts of the body are so formed as to fulfill their proper functions.

By the law of metamorphosis, every particle, after remaining a certain time in the body, is cast off, to be replaced by a new one. This alteration is carried on very slowly and almost imperceptibly, but without interruption.

Every one knows that it is impossible to abstain from food and not lose in weight and flesh. This loss indicates that the body is consuming itself, under a chemical process called *combustion*, by which heat is produced, and carbonic acid, water, etc., excreted by the lungs, the skin, the kidneys, and the intestines.

The process may be too rapid or too slow. The

first takes place in fevers, with their high temperature and great emaciation; the second, in many chronic disorders, with lowered temperature and lowered vitality.

Those organs which are in a state of permanent activity are most likely to suffer from over-work; but there is danger of the opposite extreme in the muscular system, so much of which is dependent for action entirely upon the exercise of will.

This great muscular system, with the nerves and vessels by which it is supplied, and the joints which it controls, comprises about nine-tenths of the whole organism.

Generally speaking, the action of the voluntary muscles is reduced to a *minimum*. How much of the great muscular system has the clerk brought into use? Only the muscles of the arm, the rest remaining inactive, and these muscles are so overtaxed as to cause an irritation of the nerves communicating with them, and the result is nervous disorders, such as writers' cramp.

Aside from what their occupation affords them (and that is more or less defective), most persons have no other exercise than the daily walk to and from their business, which rarely exceeds an hour a day. While this exercise is better than none, its benefits are often overestimated. In walking, only certain muscles are actively engaged, and even

those very imperfectly. The muscles of the leg are used in taking the step and the muscles of the back in keeping the body upright, but this exercise, with its uniform nature, is of less value than any other.

It is necessary to give the muscles alternate work and rest. In walking, the muscles of the back are kept in a permanent state of tension, so that they have not the time perfectly to contract and relax, which is essential to beneficial exercise.

Although, from a purely hygienic standpoint, walking in the pure air is of great benefit, aiding respiration, yet the daily walk to a given place becomes mechanical and automatic, no attention being paid to the movements by the will power.

It is evident to all, that in the various motions of the body or the limbs, a change is taking place in some of its tissues by means of *combustion.*

First, this activity creates heat, the intensity of which can be estimated, but not the amount. Second, a certain amount of waste material is thrown off and absorbed by the veins and the lymphatics, to be eventually excreted from the body. The creation of heat, which in a few minutes reaches several degrees, is soon made evident by copious perspiration.

The chemical change produces carbonic acid and other substances, which cause the feeling of languor. This sense of fatigue remains, until the

products of the change are carried away by the blood-vessels and the lymphatics.

By this process, which is constantly going on in the working muscles, some part of the tissue is consumed, but the loss is compensated by the nourishment which it receives from the blood.

This exercise demands a greater supply of blood, and neither its *quantity* nor its *quality* can be diminished without seriously endangering health

To replenish the blood, the lymphatics carry the digested food from the stomach and intestines into the blood-circulation. But before it is in a condition to nourish the body it must be carried to the great vessels of the lungs, where it is brought in contact with oxygen.

By proper exercise the respiratory movements become longer and deeper, and the capacity of the lungs is very much increased.

The same stimulating effect is produced upon the circulatory system. An increased amount of blood is sent to the different parts, necessitating a freer circulation.

Thus we find that exercise systematically applied produces direct and positive action upon the *Circulatory*, *Digestive* and *Respiratory* systems.

Since carbonic acid gas is carried off through the lungs, and water through the kidneys and skin, we can easily comprehend, that exercise will aid

materially in hastening the elimination of such waste.

Of course, in the process of combustion, heat is necessarily produced, and if the excess is not carried off, serious results may ensue.

In health, Nature has provided proper facilities for carrying off all heat above the normal amount, by exhaustion from the skin and lungs.

MECHANICAL ACTION OF MUSCLES.

There is also a mechanical process that takes place in every kind of muscular work, for when the muscle contracts, its mass is condensed, and the soft parts near the muscles are exposed to a very strong pressure.

This fact has a very important bearing upon the veins and the lymphatics, and upon the fluids which these vessels carry to the heart.

While the heart controls the action of these vessels, much aid is afforded them by the temporary pressure of the contracted muscles, and thus we see that exercise stimulates and increases the circulation in the veins and lymphatic vessels.

But these are not all the results that are produced by proper exercise. In voluntary muscular action, as a rule, one or two joints are set in motion.

These joints are protected, to prevent their bony surfaces from coming in contact with each other. While the motion is a rubbing or friction movement, exercise properly taken is free from all danger; moreover, the joint is decidedly benefited by such action, nutrition to the part being increased.

Generally, where the muscles are attached to the

bones, large *processes* or elevations are found, and the greater the muscles the larger the processes. This must indicate an increased nutrition to the bone, as well as increased strength to the osseous system.

The effect of exercise is not only chemical and mechanical, but also physiological.

The voluntary movements are what distinguish animals from plants.

The higher we go in the scale of animal life, the more perfect is the mechanism for executing the various movements necessary to its existence. We find a finer muscular development in connection with a more highly developed *nervous system.*

Involuntary motions are adjusted by the *Sympathetic Nerve System,* while the voluntary movements are controlled and regulated by the *Cerebro-Spinal Nervous System.*

That mysterious power which we call *will* imparts, at times, an impulse to muscular activity, and at others it restrains and impedes it.

Whatever the nature of the will, we know that when an impulse is generated in the brain, it is carried to the nerves of the spinal cord, and from them to the peripheral nerves, and thence to the muscle, which causes what we call contraction.

Thus we see that exercise is not so simple a thing as is commonly supposed, *but, on the contrary, it is*

a complex process involving the brain, the spine, the nerves and the muscles.

As the activity of a muscle produces a constant change in the circulation, so this same action will greatly influence the *substance* of the nerves themselves.

This applies only to motor nerves, although some authors claim that exercise has an indirect effect upon the Central Nervous System.

At times physicians employ certain remedies called **Derivatives,** the object of which is to relieve certain parts and certain conditions, by acting upon other parts of the body. For instance, by the use of purgatives, to relieve portal congestion or to remove a sluggish circulation in the brain. In some mental disorders, as in melancholy or hysteria, the same theory directs that the mind should be constantly employed, so that the patient may have no time to think of himself.

Again, when there is a disturbance in the normal condition of the motor nerves, as in spasms, it may be removed by a strong and decided impression upon the Central Nervous System through sorrow, sudden terror, etc., or by an impression upon the nerves, by burning.

When there is any disturbance in the Central Nervous System, we can often, by employing

agents to act upon the motor nerves, remove its cause.

We reach this conclusion because persons suffering from irritation of the Central Nervous System are generally those who use their motor nerves but little. Again, it is a common experience for the well-trained masseur to see these patients improve very rapidly, and be finally cured by fixed duplicated active movements.

Thus we conclude that active movements have a beneficial effect upon the nervous system, direct upon the motor nerves and indirect upon the central and sensitive nerves.

What we have said about the effects of the movements has been of a general character, but it is necessary to understand the *local* effects upon the different organs of the body.

When treating a local affection, the movements or manipulations are to be applied in such a way that the affected part will derive the benefit. When the circulation is feeble in certain parts, the muscles in the neighborhood must be made to act, so that the blood will circulate more freely in the part diseased.

APPLICATION OF MASSAGE AND THE SWEDISH MOVEMENTS TO VARIOUS DISEASES OF THE BODY.

The Movement Treatment, being an invigorating remedy, is recommended principally for chronic diseases, where either the whole organism or only a part is weakened.

The prescriptions of massage and movements given here are only mentioned in a general way; the operator must use them only after careful consideration. What may be beneficial to one individual may injure another.

The operator should consequently use such movements and manipulations as he finds suitable to the individual case, in the meantime being guided by the prescriptions here mentioned.

It is necessary in all cases to note how the patient bears each movement. If any are too strong, they must be omitted, only to be resumed as the patient's strength increases.

During the first few treatments great care should be taken not to overtax the patient's strength; *it is always better to do too little than too much*—the one is much easier remedied than the other.

GENERAL WEAKNESS.

Apply general massage. Follow with Passive Flexions and Extensions, Rotations and Pressings. Finally give Percussion of the back, if the patient's strength permits.

The first treatments should last from 20–35 minutes, gradually increasing to an hour at the end of the first week. *Daily treatments are necessary.*

Under this heading come most of the affections or rather conditions treated by general massage; for instance, when a patient is convalescent after fevers (typhoid, scarlatina), after operations when the body is emaciated, in many conditions of nervous disorders, and in general when we propose the treatment as a tonic instead of outdoor exercise.

ANÆMIA.

For this disease some authors recommend general massage of the whole body, others recommend a complete series of movements. *A series of well-selected movements in connection with the general massage* will perhaps be the most effective agent in renewing the blood. The treatment must be only by passive movements, and such as will aid the *digestion*, the *circulation* and the *respiration.*

The following series, recommended by Professor Hartelius, has frequently been used with success:—

1. S. Raising of Chest.*
2. Half L. Rotation of Feet.
3. Massage of Abdomen.
4. S. Rotation of Arms.
5. S. Rotation of Body.
6. Half L. Flexion and Extension of Legs.
7. Massage of Abdomen.
8. St. Percussion † of Back.

The first movement is for respiration, extending the chest. The air is inspired more freely, and a greater quantity of oxygen brought in contact with the blood. 8–12 times. The second carries the blood to the feet, which are generally cold; the third aids digestion and increases the appetite; the fourth, see No. 1; the fifth affects the great venous system; the sixth increases circulation in the lower extremities; the seventh is an abduction movement, and the eighth has a refreshing action on the whole system.

The movements are scientifically arranged to

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* S. means sitting; St., standing; L., lying; Kn., kneeling; Sp., suspending.

† Whenever the expression "Percussion" is used the author means Hacking.

remove the tired feeling, the lost appetite, the cold hands and feet, the backache, and all the symptoms we find in an anæmic patient.

If there are any abdominal affections special attention must be paid to them in the selection of the movements.

HYSTERIA.

For Hysteria we use such manipulations as will act directly upon the peripheric nervous system. The general massage, followed by a few rotary movements of the extremities, is to be recommended.

CHOREA.

If the disease has advanced so far that the child has no control whatever over the limbs, place him on a couch or bed, one operator standing at the head, holding the arms, another standing at the feet, grasping the lower extremities. Begin with easy stroking with the palm of the hand over the extremities and the chest, gradually increasing the strength; then turn the patient over on his face, and continue the firm stroking over the back and neck. The full treatment should last an hour, and be repeated daily for four or five days.* As soon

* Recommended by Blaché.

as improvement is visible begin with certain passive movements, such as Flexion and Extension of the extremities, Separating and Closing of the knees, Bending of the head, Depression and Elevation of the arms.

The patient is soon able to take duplicated active movements, and is finally instructed in general active movements or calisthenics, the operator keeping exact time.

The trouble cannot be overcome in less than from 4–8 weeks, the movements being applied daily. There is often a relapse in the second week, but strong treatment, with special attention to the duplicated active movements, will yield good results in the majority of cases.

PLETHORA.

In this disease we use movements such as will attract the blood from the head and produce muscular activity.

1. S. Raising the Chest.
2. Half L. Rotation of Leg.
3. S. Rotation of Body.
4. Half L. Rotation of Feet.
5. St. Rotation of Head.
6. Kn. Turning of Body.
7. Beating of Sacrum.

8. S. Rotation of Arms.

9. S. Percussion of Head, with Shaking and Stroking.

INSOMNIA.

There are certain movements which so affect the central or sympathetic nerve-system that they are called by some authors "sleeping-movements."

As a rule, the general active movements are sufficient. The treatment should always be applied at bedtime. The following manipulations and treatments will prove beneficial:—

1. General Massage.
2. S. Depression and Elevation of Arms.
3. Half L. Flexion and Extension of Legs.
4. S. Turning of Body.
5. Separating and Closing of Arms.
6. L. Raising of Body.
7. St. Bending of Knees.
8. Massage of Head.

APOPLEXY.

Experience shows that even old cases of paralysis are very often improved, and sometimes completely cured, by mechano-therapy. Its advantages consist in being able to work upon the entire nerve-system as soon as the least activity is apparent in the affected side.

The massage is used at first to irritate the nerves and to increase nutrition. It will *always* be of some benefit, provided the system has power to react.

When there is active power in the affected side, use, in connection with the massage, the following movements (for instance, for the right side):—

1. S. Raising of Chest.
2. Half L. Rotation of Legs.
3. S. Rotation of Right Shoulder.
4. Flexion and Extension of Right Leg.
5. Depression and Elevation of Right Arm.
6. Pressing and Shaking of Right Leg.
7. Pressing and Shaking of Right Arm.
8. Percussion of Back.

Paralysis from accident, gout or rheumatism is very often treated by massage, the result depending upon the condition of the affected nerves. When caused by poison, mechano-therapy is recommended principally as a stimulating remedy, when the patient is convalescent. In paralysis from lead-poisoning massage is an excellent remedy.

TABES.

Apply massage of the back in connection with Pressing. Massage of the abdomen, with Pressing above the bladder, and Pressing and Shaking of the

extremities are frequently used. Some authors recommend Extension of the legs, Pulling of the legs and Beating of the sacrum. The movements should be refreshing and invigorating, and great care should be taken not to over-exert the patient.

NEURALGIA.

Diseases of the peripheric nerves are more successfully treated by mechano-therapy than are affections of the central nerve-system. Most neuralgias yield readily to massage, and in cases of *sciatica* it has been used with most excellent results.

For the latter disease, if the right leg is affected, use—

1. Stroking of Right Leg (from behind).
2. Percussion and Beating over the Nerve.
3. Flexion and Extension of Right Leg.
4. Raising of Leg.
5. Beating of Sacrum and Right Leg.

Some of the manipulations must be repeated in the series 5–6 times. In raising the leg, place it, if necessary, on the shoulder, and bending up and down, extend the sciatic nerve as much as possible.

Rheumatic neuralgia in other nerves, as in the *trigeminus*, so often found in anæmic women, is often relieved by massage in a few treatments.

Use freely Punctation over superficial nerves, and firm Kneading and Stroking with the thumbs. If the nerve is very tender begin with a slight introductory Stroking with the thumb.

In some cases it may be advisable to use massage of the head, as described in Local Massage.

Massage of the neck (Hoeffinger's method) is an excellent remedy for many forms of neuralgia.

PROGRESSIVE MUSCULAR ATROPHY.

Use massage in the neighborhood of the affected muscles and upon them, and such movements as are calculated to increase circulation through the diseased parts.

Suppose a case of atrophy in the deltoid and supraspinatus; the following treatment should be used:—

1. Massage of the arm from the fingers up to the Trapezius.
2. Rotation of the hand.
3. Flexion and Extension of the arm.
4. Rotation of the shoulder.
5. Firm Hacking or Clapping upon the whole arm, and especially around the shoulder.

WRITER'S CRAMP.

Use massage from the tips of the fingers to the shoulder. Rotation, Turning, Flexion and Extension of the hand and arm may be used as the patient grows stronger, but massage is the principal part of the treatment.

The operator must be careful not to overtax his patient's strength. In beginning only treat the hand and forearm 10–15 minutes.

AFFECTIONS OF THE RESPIRATORY ORGANS.

Respiration is altogether mechanical, depending upon the constitution of the muscles of the chest, the extension of the latter, and the quantity of air inspired. If the capacity of the lungs be increased, all difficulty of breathing, coughs, etc., caused by an imperfect respiration, will soon disappear.

In cases where defective respiration is the result of weakness of the respiratory muscles or of deformities of the chest, the movements have proved the best means for increasing the capacity of the respiratory organs.

The effect of the Medical Gymnastics is to necessitate frequent and deep inspirations, and thus increase the capacity of the lungs, promoting pul-

monary circulation and causing a more complete oxygenation of the venous blood.

CATARRH OF THE LUNGS.

Certain manipulations (Hacking, Clapping and Shaking) on the chest have been used to induce expectoration. The movements must be such as to cause muscular activity and increase the secretion from the skin. Action upon the digestive organs will produce a derivative effect upon the lungs.

PHARYNGITIS AND LARYNGITIS.

Because massage of the neck and throat induces such an evacuation of the blood-vessels, it has been freely used for acute catarrh of the pharynx, windpipe and nose. We are able by careful examination of the inflamed mucous membranes, before and after the application of massage, to notice directly the result. Not the local symptoms only, but the headache, the pain in the forehead, the dizziness, etc., resulting from the stagnation of blood, disappear after a few treatments. By massage we also act upon the tonsils and other glands, thus assisting expectoration.

Croup may sometimes be speedily relieved.

Weiss has noted a case of croup in which a single application removed the most imminent peril.

The massage of the neck and throat ought to be more freely used.

CONSUMPTION.

Some respiratory movements are used to make the patient more comfortable, increasing the inspiration and assisting the heart in its action.

Massage of the lower extremities is sometimes applied to relieve the swelling and to increase the circulation.

General massage is often recommended as a tonic.

BRONCHITIS, NERVOUS ASTHMA, ETC.,

are frequently treated by massage, generally in the form of Strokings of the entire chest, the patient inspiring deeply at the same time. The séance must not exceed twenty minutes.

DISEASES OF THE HEART.

Massage and movements are indicated in affections of the heart caused by nervous debility, anæmia, diseases of the stomach, etc. The movements mostly used are:—

Sitting, Raising of the chest, with Shaking, to produce strong respiration;

Rotation of the extremities, to assist the heart in its action;

Rotation and Turning of the body, to give effect upon the great venous system;

Centripetal Stroking, to remove the subcutaneous effusions.

In organic diseases of the heart, movements are recommended by some of the most eminent physicians. They apply movements to support the heart in its action, generally using such as will increase the circulation in the distant parts of the body. Direct treatment over the region of the heart, in the form of Clapping and Punctation, is also used.

HYPERTROPHY OF THE HEART.

Almost all who have used movements for hypertrophy have found them of great benefit. Apply:—

1. S. Raising of Chest.
2. Half L. Rotation of Feet.
3. S. Rotation of Arms.
4. L. Extension of Legs.
5. Punctation over the Heart.
6. Half L. Separating and Closing of Knees.
7. S. Rotation of Body.

8. St. Clapping of Chest.

From this series it will be easy for the masseur to select movements for affections of the heart, where mechano-therapy is indicated.

DISEASES OF THE DIGESTIVE ORGANS.

In applying mechano-therapy for these affections we must call attention to the fact that most of them develop from circulatory disturbances, the vessels being relaxed.

There are different ways to apply massage of the stomach; one has already been described. Another way is to place the fingers about two inches below the ribs and, with Pressing, move the hand upward in connection with Shaking. In a special position (half lying, with the knees flexed, so as to relax the abdominal muscles, crook-half-lying) it is quite easy to reach the stomach by Pressing, Shaking and Kneading.

Massage of the stomach is indicated in all affections caused by circulatory disturbances or general weakness (atony) of the parts.

DYSPEPSIA.

1. Massage of the stomach and the abdomen (15 minutes).
2. Percussion of Back.

3. High St. Pulling of Legs.
4. S. Turning of Body.
5. Flexion and Extension of Legs.
6. S. Rotation of Arms.

The movements are repeated.

HABITUAL CONSTIPATION.

Massage and movements are now freely used for constipation. The treatment must always be local in the beginning, and afterward constitutional.

1. Local Massage (10–20 minutes).
2. St. Bending of Knees (hands on hips).
3. L. Raising of Body.
4. S. Turning of Body.
5. St. Beating of Sacrum.
6. See No. 3.
7. See No. 4.
8. Flexion and Extension of Legs.
9. See No. 3.
10. St. Percussion of Back.

Schreiber says: "Chronic constipation offers the most signal successes to mechano-therapy, for it is possible to make direct mechanical pressure upon the cœliac and hypogastric plexuses, and through these to reflexly excite peristalsis; furthermore, the vasomotor nerves and the intestinal muscular fibres are directly stimulated by the

squeezing to which they can be subjected." The treatment is indeed very effective, and it is not rare to obtain an evacuation of the bowels immediately after the manipulations.

HEMORRHOIDS.

Closely connected with the former disease is the accumulation of blood in the abdominal parts, called hemorrhoids.

By the manipulations on the abdomen we assist the intestines in their action; by Rotation and Turning of the body we control the great venous system, and by Beating over the sacral region we increase the circulation through the rectum.

The following movements have been used with success :—

1. Massage of Abdomen (10–15 minutes).
2. St. Bending of Knees.
3. Separating and Closing of Knees.
4. L. Raising of Body.
5. Rotation of Legs.
6. Beating of Sacrum.
7. Rotation and Turning of Body.

Although we highly recommend the movements for this affection, we must acknowledge that one treatment a day is not enough. The patient must be instructed in certain calisthenics which give a direct effect upon the great venous system.

ENLARGEMENT OF THE LIVER.

We use such movements as are calculated to increase the circulation through the great venous system.

1. S. Rotation of Arms.
2. L. Rotation of Feet.
3. S. Raising of Body.
4. L. Rotation of Legs.
5. S. Rotation of Body.
6. St. Flexion and Extension of Feet.
7. Massage of the Liver with Clapping.
8. Separating and Closing of Knees.
9. See No. 3.
10. St. Percussion of Back.

The movements must be performed twice a day, and the patient instructed in certain calisthenics.*

DIABETES.

Some authors report cases of diabetes successfully treated by mechano-therapy. Schreiber says: "The best effects will ensue when the greatest number of muscles are brought into play. It is necessary to select such movements as will call into action equally all the great muscle-groups." In

* "Home-Gymnastics."—Hartelius.

Paris, where diabetes is common, the patients are advised to take very strong bodily exercise. The quantity of sugar secreted must indicate a deficient oxygenation of the materials produced by the liver. Strong bodily exercise, which increases oxygenation in all the membranes of the body, ought to eliminate the abnormal deposit of sugar.

The proper exercise for this affection is not yet well determined. When the patient has a constitution strong enough to bear the treatment use the following movements :—

1. St. Percussion of Back.
2. L. Rotation of Feet.
3. Separating and Closing of Arms.
4. S. Bending of Body backward.
5. Flexion and Extension of Legs.
6. Raising of Body.
7. Flexion and Extension of Arms.
8. Separating and Closing of Knees.
9. Percussion of Back.

UTERINE AFFECTIONS.

Massage is applied directly to force the organs to contract, and the movements to regulate the circulation through the abdomen. Atony and dislocations of the organ are generally treated by mas-

sage; disturbances in regard to menstruation, only by movements.*

AMENORRHŒA.

1. S. Raising of Chest.
2. Rotation of Feet.
3. S. Turning of Body (inspiration).
4. S. Rotation of Body.
5. Beating of Sacrum.
6. See No. 3.
7. Rotation of Arms.
8. St. Percussion of Back.

Some of the movements must be repeated several times in the series, and when treating extremely anæmic women great care should be taken not to give too many.

DYSMENORRHŒA.

1. St. Turning of Body.
2. Rotation of Feet.
3. Beating of Sacrum.
4. S. Raising of Body.
5. Pulling of Leg.
6. Separating and Closing of Knees.

* *Dr. Douglass Graham* makes the only exception.

7. Beating of Sacrum.

9. St. Percussion of Back.

This series of movements will often relieve the intense pain that many women suffer prior to the periods.

RHEUMATISM.

The Active Movements, as well as Hacking and Beating of the affected parts, are of great benefit in cases of Rheumatism. In severe attacks the treatment should be applied twice daily. The patient must move his limbs freely instead of keeping them inactive.

Begin with general massage around and over the affected part; continue with local massage on the diseased muscle or joint, and finish the treatment with a few movements that give effect upon the circulation and respiration.

LUMBAGO.

The patient should lie on his face with the abdomen supported by pillows. The operator should perform *firm* strokings with both hands over the lumbar region from the spinal column toward the sides. In many cases it is well to give massage to the whole back and the Glutei, as previously described.

The treatment must be given twice or three times daily. It generally takes from two to five days to conquer the trouble.

To prevent Lumbago the following movements may be used:—

1. St. Bending of Body.
2. L. Raising of Body.
3. S. Bending of Trunk.
4. S. Raising of Body.

STIFF NECK.

This affection is somewhat similar to lumbago, and has been treated with like success. Begin with massage over the sterno-cleido-mastoid and continue with Pressing and Shaking. A few (in the beginning passive) movements will finish the treatment. Though at first painful, the patient will in a few days be relieved by the treatment.

The following movements may be used:—

1. S. or Susp. Bending of Head.
2. S. Turning of Head.
3. S. Rotation of Head.

GOUT.

Between the attacks massage is often prescribed, especially for *podagra*. The treatment must be given for general activity of the muscles.

1. St. Bending of Knees.
2. St. Bending backward (back supported).
3. L. Flexion and Extension of Legs.
4. S. Turning of Body.
5. S. Rotation of Arms.
6. Flexion and Extension of Feet.
7. S. Raising of Body.
8. Beating of Sacrum.
9. Massage of Stomach.
10. St. Percussion of Back.

The general massage is always of benefit, and firm friction on the sole of the foot is very effective in cases of podagra..

LATERAL CURVATURE OF THE SPINE.

The movements for this affection are many and based upon different principles. If the curvature is only of a muscular nature, and the muscles of the convex side are weakened or pathologically changed, it is apparent that the principal aim of the treatment is to restore the affected muscles. The operator must use those active movements which especially invigorate the muscles of the back. The passive manipulations are not of much service, although sometimes recommended.

For **Single Curvature,** before there is any

deformity in the spine itself, use the following movements:—

I. *Standing, Bending to the Side.*—The patient stands with hands clasped on the back of the head. The operator places one hand on the highest point of the curvature, and the other on the opposite hip, the patient bending slowly about ten times.

II. *Lying on the Side, Bending of Trunk.*—The patient lying with legs on a couch or table, in side-position, the convex side up. The movement must be performed slowly, as it is very effective. If strong enough, the patient is to keep his hands on the back of the head.

III. *Standing, Raising of the Arms.*—The patient is standing with thighs supported; the arms are raised by the patient while the operator resists, grasping the wrists.

If one shoulder-blade is lower than the other, work only with the corresponding arm.

These three movements are of the greatest importance, and must be repeated at least three times at every séance.

By special derived positions, we can prevent deformity of the scapula. The most astonishing results have been obtained in slight curvatures by these movements alone.

When the curvature is DOUBLE, we must have

movements to extend the whole back, and then we use:—

I. *Suspending, Bending of Head.*—The patient is suspended a few inches from the floor. The operator, standing at his side, places one hand on the forehead, the other on the back of his head. The patient moves his head forward and backward 8–12 times, the operator resisting, according to the strength. The movement causes both a passive and active extension of the back.

II. *Sitting, Raising of Back*—(previously described).

III. *Suspending, Separating and Closing of Legs.*—If the patient is weak, be careful in beginning to have somebody to support his sides.

IV. *Standing, Raising of the Body.*—The patient standing with thighs supported and hands clapsed on the back of the head, bends forward as far as possible. The operator, standing behind and supporting the feet, places one hand on each side of the spine. The patient raises his body, while the operator resists.

This movement is very important, as in a double curvature there is not only the curve sidewise, but also a turning of the vertebræ. By the strong extension of the curvature the turned vertebræ resume a more normal position.

All these movements must be repeated several

times in each series, and must be followed by a raising of the arms upward and a sinking of the arms. *A rest between every movement is necessary, the patient lying down in a horizontal position.* The movements are preferable to machinery, the patient being easily instructed how to practice them with home assistance. This treatment for curvature of the spine is very little known in America, but if given a fair trial, and the movements properly performed, many unfortunates might be saved from being crippled for life.

SPRAINS.

In sprains it is necessary to begin with slight, careful introductory massage, in the form of centripetal Stroking, the pain being very severe. The strength of the manipulation must not be increased until most of the swelling is gone, and the operator must be very careful to work upon every part in the neighborhood of the joint, applying, as a rule, Stroking only. Then begin Kneading the muscles and tendons, always ending with Stroking. The treatment is greatly assisted by water applications at night. A flannel bandage must be used. Some authors recommend movements from the beginning, but I have found the best results from the *massage alone.*

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nated. Certain swellings of the eyelids have been treated with great success by massage in the clinics of Schmidt, Rimpler, Rossander, and Pagenstecher.

Cases of *maculæ corneæ* (granules on *the* cornea) have been very successfully treated. In some cases it is wise to apply massage on the whole front part of the affected side, and also on the same side of the neck.

General massage is frequently used to strengthen the nervous system, thus giving effect upon the optic nerve.

Manual treatment must never be applied to the eye without an order from a physician.

AFFECTIONS OF THE EAR.

Some authors (Politzer, Eitelberg) recommend massage for certain affections of the ear, and (in my practice) I have often been able to relieve severe pain, in cases of Otitis, by massage only, in the form of Centripetal Strokings over the mastoid process and the corresponding side of the neck, as recommended by Gerst.

In a few cases local massage has been applied to the ear with good results. (Meyer.)

GENERAL REMARKS.

I. It is rather difficult to fix the time for a massage treatment. Dr. Mezger works only a few minutes (5–12 minutes), but I am satisfied that he accomplishes more in that time than many do in half an hour. As a rule, use shorter time for a local than for a constitutional affection.

In the rest-cure some eminent physicians begin with 15-20 minutes, gradually increasing the time to an hour or even longer.

II. The weakest person may be treated by massage, since it is a remedy so easily adapted to circumstances and so perfectly controlled.

III. The patient must not feel any severe pain or disagreeable fatigue after the treatment. Should such be the effect, stop the treatment for a few days, and on resuming it regulate the pressure carefully.

IV. After each treatment the patient should rest for at least an hour in a comfortable position.

V. The patient should be urged to refrain from excessive eating and drinking, and the treatment should not be applied within two hours after meals.

VI. The operator must breathe freely while giving the treatment, and must be in a proper position, neither too close to the patient nor too far off.

VII. The temperature of the room should be about 75° Fahr.; the operator should always be careful to cover up the part masséed and avoid having any draft from windows or doors.

VIII. The operator should possess vigorous health and muscular strength. He should be cheerful and of refined habits, and should have a fair education, with a perfect knowledge of the principal facts in anatomy and physiology.

IX. *Massage treatment is an art which cannot be self-acquired, but must be taught by an experienced instructor.*

X. The manual treatment of disease ought to be regulated by the medical profession, hence the physician's order should be properly carried out, even though the operator be of a different opinion.

XI. A student of Massage should have the treatment applied to his own body, by that ascertaining the proper pressure to be used upon the various tissues.

THE MASSAGE TREATMENT IN AMERICA.

There is no medical agency that has been so much abused as Massage. When I came to America I was anxious to find out how the manual treatment of disease was carried on here. I soon learned that there were no laws requiring registration, but that I could find the Masseurs through the physicians and the daily papers. I visited several of these, and submitted myself to treatment by some. I discovered there was no science whatever in their treatment; they seemed to entirely ignore the fact that nature had provided me with sensitive nerves. Most of these operators used no oil, and consequently the hair bulbs of the limbs operated on by them became inflamed. I do not know where they had acquired their knowledge of Massage, or, as they termed it, "The rubbing." One of them was sure that he had an inherited power of magnetism, etc., because his father had been "a prominent rubber" in Germany. Another, I understood, had been working in a hospital, and while the building was undergoing repair he was offered a position in the basement—whether to wash dishes or not,

I could not find out—but he declined, and left the place to become "a rubber," and is rubbing still.

Not only is the Massage treatment practiced by such persons, whose muscular power should be exerted on something less sensitive than the diseased and weakened human body, but it has also been used as a cloak for vicious purposes.

It is reported that the police in Chicago have raided a number of "Massage Shops," and one of the leading daily papers of Philadelphia asserted that a raid had been made upon similar houses in this city, where the Massage treatment was used as a cloak for vice.

As long as there is an abundant supply of both Masseurs and Masseuses, there is no necessity that a woman should be treated by a man, or a man by a woman. There are, of course, exceptions, as, for instance, that of a trained Masseur who has studied at a university or of a trained female nurse who is attending a patient in his family.

I see no reason why such a powerful, remedial agency as Massage should not be fully controlled by the medical profession, as it is in Europe.

It seems to me that the physician who recommends an incompetent person to attend his patients does wrong, and we have frequently heard sad experiences from patients whose social standing ought

to have protected them from being imposed upon by incompetent, uneducated persons.

Some time ago there was a Masseur in this city who was given a case of sprain at the ankle-joint. The surgeon performed a very slight flexion of the foot, so as to ascertain the amount of contraction in the tissues around the joint. At one of the first séances this Masseur thought he would repeat the flexion, and a fracture was the result.

Such things are unpleasant to bring before the public, but it is quite proper they should be noticed in a text-book on Massage, when there is danger that one of the most natural and powerful medical agencies will be neglected because it has not been duly protected, but practiced by persons who would be more appropriately employed at the wash tub or in the kitchen.

Let me now say a few words about educated practitioners of the manual treatment. Some of them, and especially females, have been accused of thinking too much of themselves, of being too independent. Masseurs and Masseuses should remember that they are only using one special remedy that nature has taught man to employ to arrest disease. Persons who are properly trained will not attempt to enter into competition with Medical Doctors, but confine themselves to the scientific

treatment that we have endeavored to analyze in this little text-book.

Were it not for abuses that have prevailed, the manual treatment of disease would no doubt be more universally adopted and recommended by the medical profession and the general public.

From this short sketch we conclude:—

1. That the Massage and Movement treatments should be applied only by educated and properly trained persons, with due regard to the physician's directions.

2. That the operator (if not a medical doctor) should be of the same sex as the patient, with only the two exceptions before mentioned.

3. That there should be a place where skillful and trained operators could have an opportunity of passing an examination and of registering, thus protecting not only themselves and the profession, but *the general public* also.

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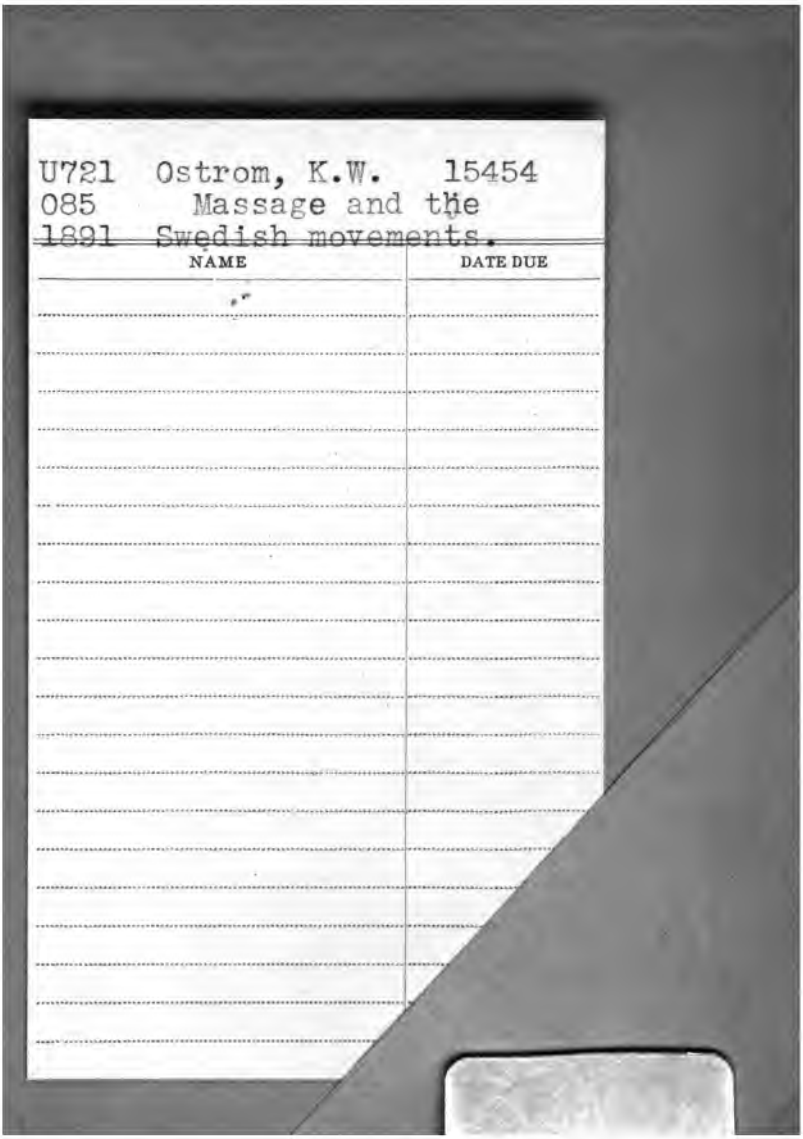
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